

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings of claims in the application.

1-32. (Cancelled)

33. (Currently amended) A method according to claim 34, wherein said the implantable device is wholly implanted subcutaneously in said the host.

34. (Currently amended) A method of measuring glucose concentration in a biological fluid, comprising the steps of:

a) providing an implantable device configured for implantation into a tissue of a host, the implantable device comprising a housing comprising a convexly protruding and continuously curved active sensing surface and a membrane directly in contact with the convexly protruding and continuously curved active sensing surface, wherein the membrane comprises an enzyme layer that comprises an enzyme and that is continuously formed over the active sensing surface, and an angiogenic layer positioned over said the convexly protruding and continuously curved active sensing surface to assist in the a formation of vasculature adjacent to the convexly protruding and continuously curved active sensing surface such that glucose can be provided to the a sensing mechanism for continuous measurement of glucose concentration when the implantable device is implanted in the -a host; and

b) implanting said device subcutaneously into a tissue of said host.

measuring a signal from the implantable device, wherein the signal is indicative of glucose concentration.

35-37. (Cancelled)

38. (Currently amended) A method of monitoring glucose levels, comprising:

a) providing -a an implantable device configured for implantation into a tissue of a host, the implantable device comprising a housing and a sensor capable of continuous glucose sensing, wherein said the sensor comprises at least one convexly protruding convexly and continuously curved electroactive surface over which a membrane, comprising a vascularization promotion layer and a continuously formed enzyme layer comprising an enzyme, is directly deposited onto the electroactive surface; and

b) implanting said device subcutaneously.

measuring a signal from the implantable device, wherein the signal is indicative of a glucose level.

39-40. (Canceled)

41. (Currently amended) A method according to claim 38, wherein said the implantable device is sized and configured for being wholly implanted subcutaneously.

42. (Currently amended) A method according to claim 41, further comprising including the step of transmitting data from said the implantable device telemetrically.

43-47. (Canceled)

48. (Currently amended) The method of claim 34, wherein said the membrane further comprises a diffusion resistance layer configured to control the flux of oxygen and glucose to the enzyme layer sensing membrane comprising an enzyme.

49. (Currently amended) The method of claim 38, wherein the enzyme comprises glucose oxidase said sensing membrane comprises an enzyme.

50-53. (Canceled)

54. (Currently amended) The method of claim 34, wherein said the implantable device further comprises an electrolyte phase, wherein said the electrolyte phase is situated between said the membrane and said the sensing mechanism.

55. (Currently amended) The method of claim 38, wherein said the implantable device further comprises an electrolyte phase, wherein said the electrolyte phase is situated between said the sensing membrane and said the sensor.

56. (Currently amended) The method of claim 38, further comprising implanting said wherein the implantable device is capable of accurately measuring in said host under conditions such that said device measures said glucose accurately in a host for a period of time exceeding 90 days.

57. (Currently amended) The method of claim 56, wherein said the implantable device is capable of measuring measures said glucose accurately for a period exceeding 150 days.

58. (Currently amended) The method of claim 56, wherein said the implantable device is capable of measuring measures said glucose accurately for a period exceeding 360 days.

59. (Currently amended) The method of claim 38, wherein the implantable device is configured to be explanted further comprising explanting said device after 90 days.

60. (Currently amended) The method of claim 59, wherein said the implantable device is configured to be explanted after 150 days.

61. (Currently amended) The method of claim 59, wherein said the implantable device is configured to be explanted after 360 days.

62. (Currently amended) The method of claim 38, wherein said the vascularization promotion layer stabilizes over a time period to produce long-term level reflecting adequate microcirculatory delivery of glucose and oxygen to said the sensor.

63. (Currently amended) The method of claim 38, wherein said the vascularization promotion layer is formed from a material selected from the group consisting of polytetrafluoroethylene, hydrophilic polyvinylidene fluoride, mixed cellulose esters, polyvinyl chloride, polyethylene, polypropylene, Teflon, cellulose acetate, cellulose nitrate, polycarbonate, polyester, nylon, polysulphone, polymethacrylate, mixed esters of cellulose polyvinylidene difluoride, silicone, and polyacrylonitrile.

64. (Currently amended) The method of claim 38, wherein said the vascular promotion layer comprises a material that has a characteristic of stimulating growth of new vascular structures by said the host close to said the implantable device.

65. (Currently amended) The method of claim 38, wherein said the sensor senses glucose using an enzymatic mechanism.

66. (Currently amended) The method of claim 38, wherein said the sensor senses glucose using a non-enzymatic mechanism.

67-69. (Canceled)

70. (Currently amended) The method of claim 34, further comprising implanting said wherein the implantable device is capable of accurately measuring in-said-host under conditions such that said device measures said glucose accurately in a host for a period of time exceeding 90 days.

71. (Currently amended) The method of claim 70, wherein said the implantable device is capable of measuring measures said glucose accurately for a period exceeding 150 days.

72. (Currently amended) The method of claim 70, wherein said the implantable device is capable of measuring measures glucose accurately for a period exceeding 360 days.

73. (Currently amended) The method of claim 34, wherein the implantable device is configured to be explanted further comprising explanting said device after 90 days.

74. (Currently amended) The method of claim 73, wherein said the implantable device is configured to be explanted after 150 days.

75. (Currently amended) The method of claim 73, wherein said the implantable device is configured to be explanted after 360 days.

76. (Currently amended) The method of claim 34, wherein said the angiogenic layer stabilizes over a time period to produce long-term level reflecting adequate microcirculatory delivery of glucose and oxygen to said the sensing region.

77. (Currently amended) The method of claim 34, wherein said the angiogenic layer is formed from a material selected from the group consisting of polytetrafluoroethylene, hydrophilic polyvinylidene fluoride, mixed cellulose esters, polyvinyl chloride, polyethylene, Teflon, cellulose acetate, cellulose nitrate, polycarbonate, polyester, nylon, polypropylene, polymethacrylate, polysulfone, mixed esters of cellulose polyvinylidene difluoride, silicone, and polyacrylonitrile.

78. (Currently amended) The method of claim 34, wherein said the angiogenic layer comprises a material that has a characteristic of stimulating growth of new vascular structures by said the host close to said the implantable device.

79. (Currently amended) The method of claim 34, wherein said the active sensing surface is configured to sense glucose using an enzymatic mechanism.

80. (Currently amended) The method of claim 34, wherein said the active sensing surface is configured to sense glucose using a non-enzymatic mechanism.

81. (Currently amended) The method of claim 34, wherein said the active sensing surface is configured to sense glucose using a resonance mechanism.

82. (Currently amended) The method of claim 34, wherein said the active sensing surface is configured to sense glucose using an acoustic wave mechanism.

83. (Currently amended) The method of claim 34, wherein said the active sensing surface is configured to sense glucose using an optical mechanism.

84-87. (Canceled)